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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,715	03/27/2006	Nobuhiro Hayashi	4439	4988

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Floyd B Carothers
Carothers & Carothers
Suite 500
445 Fort Pitt Boulevard
Pittsburgh, PA 15219

EXAMINER	
SMITH, FRANCIS P	
ART UNIT	PAPER NUMBER
1792	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/574,715	HAYASHI ET AL.	
	Examiner	Art Unit	
	Francis P. Smith	4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) *8-12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-12* are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/5/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-7, drawn to a vacuum evaporation deposition method of the winding type.

Group II, claim(s) 8-12, drawn to a vacuum evaporation deposition apparatus of the winding type.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: In the instant application, the inventions contain a common theme of evaporating a metal film on an insulating material. According to JP 61030669, it was known in the art at the time of the invention to deposit a metallic film on an insulation material, and therefore, the instant application lacks unity.

3. During a telephone conversation with Floyd Carothers, Esq. on March 26, 2008 a provisional election was made without traverse to prosecute the invention of I, claims 1-7. Affirmation of this election must be made by applicant in replying to this Office action.

Claims 8-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

4. The disclosure is objected to because of the following informalities: In line 2 of [0024], "take-up roller 13" apparently means "take-up roller 15."

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makoto et al. (JP 2002-358633) in view of Okuda et al. (US 5,258,074).

Regarding claims 1 and 4, Makoto teaches a method of manufacturing magnetic recording media. Specifically, the process for manufacturing the magnetic recording medium consists of a processing step of electrifying a polymer film in the traveling state (e.g. an insulating material base film is continuously fed out). The polymer film is kept in tight contact with the cooling roll by electrification of the traveling polymer film (i.e.

cooled in close contact with a cooling roller) (see abstract). Furthermore, a metal is evaporated onto said insulating material base film to deposit a metal film thereon [0029]. An electron gun is installed in the upper wall of the vacuum chamber to pass along the center line of the cooling roller and to cross the direction of the high polymer film as it is conveyed (i.e. charging the insulating material base film) [0021]. Makoto does not teach applying a voltage after the deposition of the metal film.

Okuda teaches an evaporation apparatus featuring a voltage applying and current measurement means. Specifically after a metal film is deposited on a substrate film, a voltage is applied to the metal membrane-deposited film substrate, which is applied between the auxiliary roller (i.e. roller 7a) and cooling roller to ensure that the metal membrane adheres to the film substrate with great strength (as per claim 4) (col. 3, lines 47-63; col. 4, lines 4-32; see fig. 1). Therefore, it would have been obvious to one skilled in the art at the time of the invention to apply a voltage after depositing a metal film in Makoto's method as taught by Okuda in order to enhance the cooling efficiency of the substrate by promoting adherence to the drum and to ensure that the metal membrane binds to the film substrate with a favorable strength.

As per claims 2 and 3, Makoto teaches an electron gun such that the electron beam can be scanned to the length direction of a cooling roller, the cross direction of the substrate film in which it runs (e.g. charging said insulating material base with charged particles while being scanned in the width direction of the insulating material base film as it is in contact with said cooling roller) ([0021], see drawing 1).

Regarding claim 5, Makoto teaches using a measuring device consisting of a

piezoelectric sensing element 26, which is capable of controlling the applying voltage as to place the surface potential within a predetermined range ([0017], see drawing 1).

For claim 7, Makoto teaches removing the electricity from the insulating material base film after the deposition of the metal film [0033].

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Makoto et al. (JP 2002-358633) and Okuda et al. (US 5,258,074), as applied to claim 1 above, and further in view of Asai et al. (US 5,489,488).

Makoto, as modified by Okuda, does not disclose forming a mask pattern on the surface of the insulating material base film before charging said base.

Asai teaches of manufacturing a soft magnetic film whereby a substrate is coated with a resin mask having a predetermined core pattern CP. The resin mask was used for the purpose of forming a magnetic multilayer film in the opening of said mask (col. 7, lines 10-19). Therefore, it would have been obvious to one skilled in the art at the time of the invention to utilize Asai's resin mask in Makoto/Okuda's method in order to form a magnetic film of a predetermined pattern on a soft film substrate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francis P. Smith whose telephone number is (571) 270-3717. The examiner can normally be reached on Monday through Thursday 7:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael B. Cleveland can be reached on (571) 272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FPS

/Michael Cleveland/
Supervisory Patent Examiner, Art Unit 1792